

REMARKS:

Claims 25-32, 34-45, and 47-50

Claims 25-32, 34-45, and 47-50 have been rejected under 35 USC 103(a) as being unpatentable over Sato (US6757133) in view of Sasaki et al. (US6801407).

The analysis of obviousness was set forth in *Graham v. John Deere*, 383 U.S. 1, 148 USPQ 459 (1966). In order to establish a *prima facie* case of obviousness, three basic criteria must be met:

First, there must be some *suggestion or motivation*, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the teachings of the references. Second, there must be a *reasonable expectation of success*. Finally, the prior art reference or combined references must teach or suggest *all the claim limitations*. *The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art*, and not based on applicant's disclosure (*In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991; emphasis added).

Applicants respectfully traverse the rejection as failing the *Graham* test. Specifically, the combination proposed in the rejection fails at least the third element of the *Graham* test.

Claim 37 requires a coil structure defined by a conductive material situated in the channel, wherein each of the sides of the photoresist layer includes a first segment defining a first angle and a second segment defining a second angle, the first and second segments being contiguous, and the photoresist layer does not overlay the coil structure. However, as shown in Fig. 12 from Sato (cited by the Examiner), Sato's insulating layer 14 clearly overlays the coil structure 12. To further exemplify the misapplication of Sato, in the rejection of claim 38, the Examiner has relied on items 18+12a of Fig. 10 from Sato in an attempt to make a prior art showing of applicants' claimed coil structure defined by a conductive material situated in the at least one channel. Clearly, by defining Sato's coil structure as the lead layer 18 plus the coil center 12a of Fig. 10, the insulating layer 14 in Sato's Fig. 12 overlays the coil structure, in direct contravention to the claims.

Claim 38 also requires that the photoresist layer does not overlay the coil structure. However, the rejection cites the insulating layer 14 of Fig. 10 as meeting the claimed photoresist layer; then cites portions 18 and 12a as the coil structure. Looking more closely at Fig. 10 from Sato, Sato's insulating layer 14 clearly overlays the coil structure 12. Thus, even the rejection of claim 38 admits that Sato's insulating layer 14 overlays Sato's coil structure 12, as prohibited by the claim.

Further, Fig. 10 from Sato fails to teach or suggest wherein a profile of the channel includes a first segment defining a first angle relative to a plane of deposition of the photoresist layer, and a second segment continuous with the first segment, the second segment defining a second angle relative to a plane of deposition of the photoresist layer, the second angle being different than the first angle, as claimed by applicants.

Accordingly, claims 37 and 38 are believed to be allowable over the prior art of record in any combination. Reconsideration and allowance of claims 37 and 38 is respectfully requested.

Claims 39-45 and 47-48, depend from claim 38, and therefore incorporate the limitations of claim 38. By virtue of their dependence, claims 39-45 and 47-48 are also believed to be allowable. If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). Reconsideration and allowance of claims 39-45 and 47-48 is respectfully requested.

Further, claim 48 requires that an aspect ratio of the channel and coil structure is at least 2.5. On the other hand, Fig. 10 from Sato (cited by the Examiner) shows an aspect ratio of less than 1:2.5, not at least 2.5, as claimed.

Claim 25 requires a photoresist layer positioned adjacent the underlying layer and having two opposing sides defining a channel, a bottom of the channel extending between the opposing sides being defined by the underlying layer, wherein a profile of each of the sides of the

photoresist layer that define the channel includes a first segment and a second segment that is contiguous with the first segment, the first segment defining a first angle relative to a plane of deposition of the photoresist layer, the second segment defining a second angle relative to the plane of deposition of the photoresist layer, the second angle being different than the first angle.

In sharp contrast, neither Sato nor Sasaki teach or suggest a photoresist layer positioned adjacent the underlying layer and having two opposing sides defining a channel, a bottom of the channel extending between the opposing sides being defined by the underlying layer, wherein a profile of each of the sides of the photoresist layer that define the channel includes a first segment and a second segment that is contiguous with the first segment, the first segment defining a first angle relative to a plane of deposition of the photoresist layer, the second segment defining a second angle relative to the plane of deposition of the photoresist layer, the second angle being different than the first angle.

Rather, Fig. 2 of Sato (cited in the rejection) has been cited to show a channel around element 34a. However, this channel rests on the second coil extraction layer 29, not an insulating layer. See Sato col. 8, lines 18-21, indicating that element 34a is electrically connected to the second coil extraction layer 29 through the gap layer 32 (also cited in the rejection). All other portions of Sato's coil structure 34 that rest on the gap layer 32 have a rectangular cross section, and so the polyimide layer 39 cannot have sides with different angles defined relative to a plane of deposition of the photoresist layer, as claimed. Nor does Sato suggest a shape of any coil above the gap layer 32 other than rectangular. Rather, Sato discusses the criticality of the shape of the wraps of the coil layer, the widths, L2 and L3, of the rectangular-cross-sectioned coil providing reduced inductance and impedance. See Sato col. 9, line 60 to col. 10, line 9.

Further, Sato fails to teach or suggest a bottom of the channel extending between the opposing sides being defined by the underlying layer. As shown in Fig. 2 from Sato, the underlying layer 32 does not extend across the bottom of the channel, and thus the bottom of the

channel does not extend between the opposing sides being defined by the underlying layer, as claimed.

Sasaki does not contain any structure more relevant than that shown in Sato. Further, similar to Sato, all of Sasaki's coil structures have a rectangular cross section.

Accordingly, claim 25, is believed to be allowable over the prior art of record in any combination. Reconsideration and allowance of claim 25 is respectfully requested.

Claims 26-32, 34 and 35 depend from claim 25, and therefore incorporate the limitations of claim 25. By virtue of their dependence, claims 26-32, 34 and 35 are also believed to be allowable. If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). Reconsideration and allowance of claims 26-32, 34 and 35 is respectfully requested.

Further, claim 35 requires that an aspect ratio of the channel and coil structure is at least 2.5. On the other hand, Fig. 2 from Sato (cited by the Examiner) shows an aspect ratio of less than 1:2.5, not at least 2.5, as claimed. Accordingly, such claim is further believed to be allowable over the prior art.

Claim 36 requires a photoresist layer positioned adjacent the underlying layer and having two opposing sides defining a channel, a bottom of the channel extending between the opposing sides being defined by the underlying layer, wherein a profile of each of the sides of the photoresist layer that define the channel includes a first segment and a second segment that is contiguous with the first segment, the first segment defining a first angle relative to a plane of deposition of the photoresist layer, the second segment defining a second angle relative to the plane of deposition of the photoresist layer, the second angle being different than the first angle.

For similar reasons as those noted above in the discussion of claim 25, the prior art of record fails to disclose or suggest this unique combination of features. Accordingly, claim 36 is

believed to be allowable over the prior art of record in any combination. Reconsideration and allowance of claim 36 is respectfully requested.

Claim 49 requires that the layer of photoresist does not overlay the coil structure. However, as shown in Fig. 10 from Sato (cited by the Examiner), Sato's insulating layer 14 clearly overlays the coil structure 12. Further, the Examiner has relied on Sato's coil lead layer 18 in an attempt to make a prior art showing of applicants' coil structure. Clearly, the coil lead layer 18 formed on the coil center 12a of the coil structure 12 in Sato (see Col. 2 lines 3-7 from Sato), fails to meet applicants' claimed coil structure, wherein the layer of photoresist does not overlay the coil structure.

Similarly, Claim 50 requires that the layer of photoresist does not overlay the coil structure. However, as noted, Fig. 10 from Sato (cited by the Examiner) illustrates Sato's insulating layer 14 overlaying the coil structure 12.

Accordingly, claim 49 and 50 are believed to be allowable over the prior art of record in any combination. Reconsideration and allowance of claim 49 and 50 is respectfully requested.

Claim 33 and 46

Claims 33 and 46 have been rejected under 35 USC 103(a) as being unpatentable over Sato in view of Sasaki and in yet further view of Rose et al. (US 2001/0013991).

The rejection applies Sato and Sasaki for claims 25 and 38. Claims 33 and 46 depend from claims 25 and 38 respectively, and therefore the rejections suffer from the same deficiencies as set forth above with respect to claims 25 and 38. Because Rose has merely been added to allegedly show additional limitations of claims 33 and 46, such claims are believed to be allowable over the combination proposed by the Examiner. Reconsideration and allowance of claims 33 and 46 is respectfully requested.